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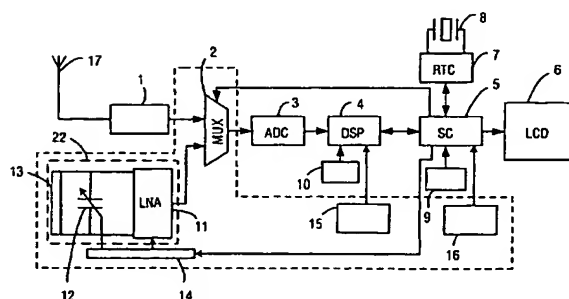
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(54) Title: **MOBILE RADIO RECEIVER WITH IMPROVED REAL-TIME PRECISION**



(57) Abstract: The invention relates to a mobile radio receiver comprising a receiving device (22, 19) for receiving time reference signals. In order to allow a precise real-time indication on mobile radios, a mobile radio is proposed comprising a GSM receiving unit (1) with a next-in-line analog-to-digital converter (3) for converting analog signals into digital signals, a digital signal processor (4) for reconstructing and processing the received signals, a system controller (5) for controlling the components of the mobile radio, a real-time circuit (7) comprising an oscillator (8) and a display (6) for showing information, in which mobile radio a further receiving unit (19, 22) is arranged for receiving a time reference signal, which further receiving unit (19, 22) comprises an antenna (18, 13) for receiving time reference signals, tunable capacitors (12) for being tuned to the transmit frequency and an amplifier (11) for amplifying the received time reference signal, and a multiplex unit (2) inserted between the GSM receiving unit (1) and the analog-to-digital converter (3), which multiplex unit (2) can be supplied with the received analog mobile radio signal and the time reference signal and in which mobile radio the received time reference signal can be applied at a predetermined instant to the digital signal processor DSP (4) for demodulation and filtering and to the system controller (5) for decoding, and there is provided to update the real-time circuit (7) with the decoded time reference signal. In this way a GSM mobile radio is obtained with little hardware or software supplements, which mobile radio is in a position to receive and decode a time reference signal and use the time reference signal for updating the real-time circuit (7).